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EXAMINER

HANLEY, BRITT D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

01. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/02/2011 has been entered. Claims 15-16 have been cancelled in the application, and claims 1-14 are pending.

Claim Rejections - 35 USC § 103

02. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

03. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

04. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over D1 (JP 2002-075207) in view of D2 (JP3-75596).

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0.5. Regarding claim 1, D1 discloses an aging method for performing an aging of a plasma display panel using an aging device including an air blowing means (302) for cooling a plasma display panel (¶ 16-20), the method comprising: directing air to the plasma display panel in at least one direction away from parallel relative to display surface of the plasma display panel (Figure 1); applying voltage to the plasma display panel (303) to cause aging electric discharge while the air is directed to the plasma display panel (Figure 1). D1 does not explicitly appear to disclose periodically changing at least one of a) a rate at which air is directed across a location on said plasma display panel; and b) a further rate at which air is directed from a fixed location to said location on said plasma display panel, while said voltage is applied to the plasma display panel to cause aging electric discharge.

0.6. However, periodically changing a rate at which air is directed across a location on said plasma display panel or a further rate at which air is directed from a fixed location to said location on said plasma display panel is obvious to one of ordinary skill in the art in order to prevent any thermal gradients in the panel that might crack the glass.

0.7. Further, in the analogous field of cooling electronic components, D2 discloses a fan (6) and an airflow guide (2) that changed the direction of the air to cool a circuit board (3). Optimizing the direction and making the airflow guide periodically change the direction are both within the skill of one having ordinary skill in the art.

0.8. At the time the invention was made, it would have been obvious to a person having ordinary skill in the art having the references of D1 and D2 to modify the aging device of D1 to include the airflow guide of D2 in order to better cool the displays and ensure uniform temperature is maintained, thus avoiding cracking any of the glass.

0.9. Regarding claim 2, D1 and D2 disclose the aging method of a plasma display panel according to claim 1, wherein the air is directed towards the plasma display panel by a plurality of air blowing devices (D1: 302, Figure 1).

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1.0. Regarding claim 3, D1 and D2 disclose the aging method of a plasma display panel according to claim 1, wherein the air changes directions as it is blown towards the plasma display panel (D2: Figure 2). The motivation to change the direction of the air as it is blown toward the display panel is the same as in claim 1.

1.1. Regarding claim 4, D1 and D2 disclose the aging method of a plasma display panel according to claim 2, wherein, during the aging, at least one of the plurality of air blowing devices is moved (D1: fans rotate blades to blow air).

1.2. Regarding claim 5, D1 and D2 disclose the aging method of a plasma display panel according to claim 2. The pair is silent regarding, during the aging, at least one of the plurality of air blowing devices changes in a direction. However, this is an obvious variation of changing the air direction by using an airflow guide rail. Instead of using something else to change the direction, just change the direction of the fan. Accordingly, at the time of the invention, changing the direction of at least one of the fans would have been obvious to one of ordinary skill in the art. Further, one of ordinary skill in the art would have been motivated to change the direction of on of the fans in order to eliminate an extra part, such as an airflow guide, and to maintain uniform temperature of the display panel.

1.3. Regarding claim 6, D1 discloses an aging device of a plasma display panel, comprising: an air blowing means (302) for directing air to the plasma display panel in at least one direction away from parallel relative to a display surface of the plasma display panel (drawing 1), and a voltage source (303). D1 does not explicitly appear to disclose wherein the air blowing means periodically changes at least one of a) a rate at which air is directed across a location on said plasma display panel; and b) a further rate at which air is directed from a fixed location to said location on said plasma display panel, a voltage source for applying voltage to the plasma display panel while the rate or the further rate is periodically changing in order to cause aging electric discharge.

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1.4. However, periodically changing a rate at which air is directed across a location on said plasma display panel or a further rate at which air is directed from a fixed location to said location on said plasma display panel is obvious to one of ordinary skill in the art in order to prevent any thermal gradients in the panel that might crack the glass.

1.5. Further, in the analogous field of cooling electronic components, D2 discloses a fan (6) and an airflow guide (2) that changed the direction of the air to cool a circuit board (3). Optimizing the direction and making the airflow guide periodically change the direction are both within the skill of one having ordinary skill in the art.

1.6. At the time the invention was made, it would have been obvious to a person having ordinary skill in the art having the references of D1 and D2 to modify the aging device of D1 to include the airflow guide of D2 in order to better cool the displays and ensure uniform temperature is maintained, thus avoiding cracking any of the glass.

1.7. Regarding claim 7, D1 and D2 disclose the aging method of a plasma display panel according to claim 6, wherein the air is directed towards the plasma display panel by a plurality of air blowing devices (D1: 302, Figure 1).

1.8. Regarding claim 8, D1 and D2 disclose the aging device of a plasma display panel according to claim 7, wherein, during the aging, the direction of air blown from the plurality of air blowing devices changes (D2: Figure 2). The motivation to change the direction of the air as it is blown toward the display panel is the same as in claim 1.

1.9. Regarding claim 9, D1 and D2 disclose the aging method of a plasma display panel according to claim 7, wherein, during the aging, at least one of the plurality of air blowing devices is moved (D1: fans rotate blades to blow air).

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20. Regarding claim 10, D1 and D2 disclose the aging method of a plasma display panel according to claim 7. The pair is silent regarding, during the aging, at least one of the plurality of air blowing devices changes directions. However, this is an obvious variation of changing the air direction by using an airflow guide rail. Instead of using something else to change the direction, just change the direction of the fan. Accordingly, at the time of the invention, changing the direction of at least one of the fans would have been obvious to one of ordinary skill in the art. Further, one of ordinary skill in the art would have been motivated to change the direction of on of the fans in order to eliminate an extra part, such as an airflow guide, and to maintain uniform temperature of the display panel.

21. Regarding claims 11 and 13, D1 and D2 disclose the aging method of a plasma display panel according to claims 1 and 6, wherein during cooling of the plasma display panel, air is blown from a first direction and is then changed to be blown from at least a second direction (D2: Figure 2). Examiner notes that as the airflow guide moves, the air changes direction. Therefore, the air is blown from a first direction and then from a second direction.

22. Regarding claims 12 and 14, D1 and D2 disclose the aging method of a plasma display panel according to claims 1 and 6. The pair is silent regarding wherein during cooling of the plasma display panel, air is blown in at least two different amounts.

23. However, at the time of the invention, it would have be obvious to one of ordinary skill in the art to adjust the amount of air blowing toward the display in order to ensure that the temperature of the panel does not exceed a predetermined amount and to ensure a uniform temperature of the panel.

Response to Arguments

24. Applicant's arguments filed 09/02/2011 have been fully considered but they are not persuasive.

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25. Applicant argues that none of the cited references teach that the air blowing means periodically changes. Examiner agrees that the cited references do not appear to expressly teach that the fans either periodically change the rate at which air is directed toward the panel or the further rate at which air is directed from a fixed location to the panel.

26. However, the use of fan is cooling PDPs during aging is a well known method. Adjusting the fans so that they cool the entire display panel uniformly and prevent the display from exceed some predetermined temperature is well within the skill of one of ordinary skill in the art. Fans that oscillate periodically are well known in the art as they have been commonly used in homes and offices around the world for decades.

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Britt Hanley whose telephone number is (571) 270-3042. The examiner can normally be reached on Monday - Thursday, 6:30a-5:00p ET.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571)272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Britt Hanley/
Examiner, Art Unit 2889

| /Toan Ton/
Supervisory Patent Examiner, Art Unit 2889

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